CHAPTER III

RESEARCH METHOD

This chapter discuses research design, population, sampling and sample, description of treatment, research variable, research instrument, data collection method, and data analysis technique.

A. Research Design

Research design is all process needed in conducting a research. The study belonged to quantiative approach by using an experimental research design with two group pre-test and post-test. The experimental research design is a research design intended to test the effectiveness of something. Moreover, according to John W. Creswell (2012:295) experimental study is for the research which was helping the researcher to know the cause and effect between independent variables and dependent variables. Daniel Mujis (2004:1) stated that quantitative method is officially about collecting numerical data to explain particular phenomenon. Thus, the research method is an important part of a research to find out the scientific truth. The experimental method is a systematic and scientific approach to research in which the researcher manipulates one or more variables, and controls and measures any change in other variables. This is an experiment where the researcher manipulates one variable, and control/randomizes the test of the variables. It has a control group, the subjects have been randomly assigned between the groups, and the researcher only tests one effect at a time.

In this study, the researcher used a Quasi-Experimentalas the design of the research to see the effectiveness of song from JOOX Music Application on students' vocabulary mastery. As stated by Mujis (2004:200), "quasi-experimental research is especially suited to looking at the effects of an educational invention, such as a school improvement program, a project to improve a specific element. The researcher determined to select two intacts group. The first group was given treatment, called experimental group and the other group was not be given a treatment, called control group . The data were collected from pre-test and post-test in order to know whether the usage of song from JOOX Music Application was effective in improving students'vocabulary mastery. The table below shows the design of the research.

Table 3.1:

Quasi-experimental research design

Group	Y1	X	Y2
Experimental class (VIII B)	Pre-test	Song from JOOX	Post-test
Control class (VIII A)	Pre-test	-	Post-test

Based on the Table 3.1, the procedures of using two groups pre-test post-test design were:

1. Administering a pre-test to both classes (VIII A and VIII B) to measure the score of vocabulary mastery of the students at second grade in MTs Darul Falah.
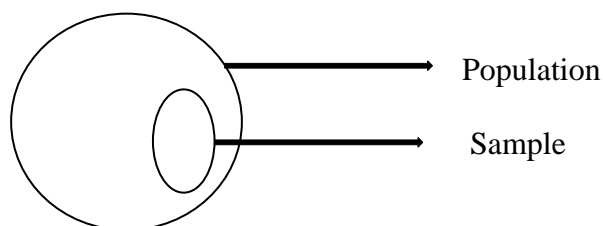
2. Applying the experimental treatment in VIII B class to teach vocabulary by using song from JOOX Music Applicationand applying control treatment in VIII A to teach vocabulary by using conventional method to the student of second grade in MTs Darul Falah.

3. Administering a post-test in both classess (VIII A and VIII B) to measure the score of vocabulary mastery of the students at second grade in MTs Darul Falah.

B. Population, Sampling, and Sample

1. Population

Population is generally a large collection of individuals or subjects that was the main focus of a scientific query. It concluded of all individuals that have similar characteristics. Gay (2006) stated that population is a certain group of things (people, objects, events, etc) chosen by the researcher whose study on the research that can be generalized to the group that has a population at least one characteristic that distinguishes it from the other group.According to Scott and Johnston (2009: 29) population is the universe of people to which the study could be generalized, and a sample is the subset of people from the population who will participate in the current study.

The illustration of population and sample

The population of this research was students' in the second grade of Islamic Junior High School of Darul Falah which has around 130 students'. The school has four second grade classes. They were VIII A, VIII B, VIII C, and VIII D in academic years of 2019/2020 and each class was consist with different number of students'.

2. Sampling

Sampling is a technique to take sample from group of population. Sampling an important characteristic of inferential, and statistics is the process of going from the part to whole (Ary et al, 2010:148). In this study, the researcher did not use all populations to be sampled. Therefore, purposive sampling used to take samples. Purposive sampling technique is a type of non probability sampling where the researcher consciously selects subjects for addition in a study so as to make sure that the elements will have certain characteristics pertinent to the study. In purposive sampling, which also referred to as judgment sampling, sample elements judge to a typical or representative are chosen from the population (Ary, 2010:156). It was technique to determined sample with a particular consideration. Purposive sampling used based on a certain consideration and the main consideration was the chosen classess had homogeneous vocabulary mastery. In other words, the students in those classess had average proficiency in vocabulary.

3. **Sample**

According to Ary et al (2010:148) sample is the small group that is observed. Cresswell (2012 :142) state that "A sample is a subgroup of the target population". Fraenkel and Wallen (2006:92) also give explanation that sample is the group on which information is obtained.

Based on the description above, the researcher defined that sample was a small group taken from population with a certain media that was researched by researcher.

For the study was quasi experimental, the sample was choosen by applying purposive sampling. Applying this method, two classes were choose by using a certain criterion in which the choose classes must be normal or in average. Based on the criterion the sample of this research as the students' of VIII A as a control group and VIII B as a experimental group at MTs Darul Falah in which total of VIII A class was 28 students' and VIII B was 29 students'. So, the total sample was 57 students'.

Table 3.2:The Research Sample by Class

No.	Class	The Number of Students
1	VIII A	28
2	VIII B	29

The sample above was divided into two groups. The first group was class VIII A as the control group and the second group was class VIII B as the experimental group. The experimental group was given the song from JOOX Application in their vocabulary mastery. The researcher made lesson plans and some activities for every meeting based on the school-

based curriculum. The control group was given the same materials but without using song from JOOX Application in their vocabulary mastery.

Table 3.3:The Distribution of the Treatment

Group	Class	Treatment	Number of Students
Experimental	VIII B	Song from JOOX Application	29
Control	VIII A	Conventional	28

C. Research Variable

Variable is anything that will be researched by the researcher. According to Frankel and Wallen (2006:40) variable is a concept a noun that stands for variation within a class of subject such as gender, colour, motivation, chair, eye, achievement, or running speed. Based on the title of this research, there were two variables:

1. Independent Variable

Independent variable is the one affecting another variable. In this research teaching vocabulary using song from JOOX Music Applicationwas an independent variable because it affected the students' vocabulary mastery.

2. Dependent Variable

Dependent Variable is the one affected by another variable. In this research student's vocabulary mastery was a dependent variable.

A. Research Instrument

Every research is always needed an instrument for collect the result of data. Sugiyono (2013) stated that research instrument is a tool for measuring and observing, in order to produce the result of quantitative data. He also said

that research instrument uses to measure the value of research variable. Creswell (2008:5) sated that the researcher uses instrument to measure achievement, asses individual ability, observe behavior, develop a psychology profile of an individual, or interview a person. Thus, research instruments were the ways of gathering the data, without them, data would be impossible to put in hand.

To obtain the data, the researcher applied test as a research instrument. According to Ary, 2010:210 test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. Moreover, Burhan (2014:117) stated that there were two types of test used as instrument, namely essay test and objective test. Essay test is a form of question that demands the answer of students' in the form of descriptions using their own language. Than, objective test is a short answer test that demands students' only by giving a short answer by selecting a specific code that represents an alternative answer that has been provided. In this research, the vocabulary test served as the research instrument. The vocabulary test was held twice, in the pre-test and post-test. The test was multiple choice test that consisted of twenty items of vocabulary. The students were ordered to give the best answer in the test. The post-test had the same format as the pre-test.

The pre-test was administered before given treatment or before teaching by using song from JOOX Music Application.The purpose was to know or measure the students' vocabulary mastery before be given a

treatment. By knowing the results of pre-test, it can be concluded that there were significant difference score before and after the treatment was given. After getting the result of pre-test form experimental group and control group, the researcher was given treatment to teach voabulary for experimental group by using song from JOOX Music Application. Meanwhile, the researcher did not give treatment or given conventional method to teach vocabulary for control group. After that, the researcher had given post-test to experimental group and control group. Post-test was used to know the students' vocabulary mastery after taught by using JOOX Music Applicationand from the one not using JOOX Music Application.Finally, the test was used to indicate the significant difference in the vocabulary mastery between the second grade students of junior high school who were taught by using song from JOOX Application and those who were not.

In addition, before the instrument was used to collect the data, the researcher was conducted try out. It was used to find out the validity and reliability of the instrument. Try out was administered in another class which was not involved during the research process. Try out will be implemented to 20 students' of VIII D at MTs Darul Falah. Researcher choose this subject based on characteristic of students' ability that near same with the sample.

B. Validity and Reliability Testing

1. Validity Testing

The good instrument is valid. According to Ary etal (2010:225) defines validity as the extent to which as instrument measured what it claimed to measure. While, Fraenkel and Wallen (2006:150) stated that validity is the most important idea to consider when preparing or selecting an instrument for use. In other words, validity can be defined as the instrument that measures what is supposed to be measured.

In this research, the researcher used face validity as the subjective measurement, construct validity as the criteria of a person who full filled the success speaking ability, and content validity as a non-empirical expert judgment of the extent to which the content of a test is comprehensive and representative of the content domain purported to be measured by the test.

a. Face Validity

According to Ary et al (2010:225) who states that face validity refers to the extent to which examines believe the instrument is measuring what it is supposed to measure. Henning (1987, p. 192) defines face validity as a subjective impression, usually on the part of examinees, of the extent to which the test and its format fulfills the intended purpose of measurement.

b. Construct Validity

Construct validity is any theory, hypothesis, or model that attempts to explain, observed phenomena in our universe of perception (Brown, 2004:45). It is used to examine whether the test has a consistent representation with theories underlying the presented material or not. The instrument was constructed concerning aspects that would be measured according to the certain theory. Then, the instrument was consulted to expert.

In this research, the instruments which have been constructed based on the vocabulary theory. To test the construct validity was used the expert opinion. After an instrument was constructed about the aspects which be measured based on appropriate theory, then the instrument was consulted with the expert. The expert who was choosen by researcher in this research was advisor of this research a lecturer of IAIN Tulungagung, he was Mr. Susanto, SS, M.Pd. The expert would given their opinion about the instrument which researcher made. In addition, the researcher also consulted with the teacher of English lesson at MTs Darul Falah. After got the judgement from expert, the instrument could be tried out to the second grade students' of MTs Darul Falah wich consisted of 20 students to find out the validity of the test.

c. Content validity

The content validity of the test is showed with relevancy of the objective of the test and the content of the test items. According to Ary et al (2010:225) states that validity is to have teachers examine the test and judge whether the test is adequate sample of the content and objective to be measures. The test was said have content validity if its contents constitute a representative sample of language skills, structures, etc., being tested. It that the test based on competency of standard and basic competency of school based curriculum grade eight of the English subject.

Content validity is a kind of validity which depends on careful analysis of the language being tested and of the particular test subjective. According to Gay in his book, Educational Research Competencies for analysis and Application Fourth Edition, "Content validity is of prime importance for achievement test. A test score cannot accurately reflect a student's achievement if it does not measure what the student was supposed to learn (Gay, 1992:156). A test is said to have content validity if its contents constitutes a representative sample of the language skill, structure, etc. Being tested, the try out test was valid in terms of content validity because this test accord with Syllabus.

Thus, the researcher can conclude that the test were valid in content validity because thematerial are tested have been taught to the

students. The researcher made this test based on the course objective in the syllabus of MTs Darul Falah. Therefore, this test was valid in term of content validity.

Table 3.4: Content validity

Main competence	3.7 Memahami fungsi sosial dan unsur kebahasaan dalam lagu dan pesan lagu.
Basic competence	4.11 Menangkap makna dalam lagu.
Indicator	- Merespon makna yang terdapat dalam lagu. - Menulis kosakata baru yang diperolehmelalui lirik lagu. - Mengklasifikasikankosakata baru berdasarkan dengan jenis part of speech.
Technique	Written test
Instrument	- Pretest - Postest

Based on the Table 3.4 above, the instrument of the test could be said have the content validity because the test has equal purpose with the core competence and basic competence in syllabus of Curriculum of 2013, which was testing the students' ability in vocabulary with the correct structures.

2. Reliability Testing

Reliability is the consistency of measurement. By reliability, we know whether test is good or not. According to Ary et al (2010:237) stated that reliability is concerned with the effect of errors of measurement on the on the consistency of scores. A test said reliable if the test is consistent and dependable. It means that whenever the test was administered, it would show the similar or even the same result in any situation of test. In this research, the researcher used SPSS 16.0 for windows to know the

reliability of test instrument. The researcher was gave try out to the students' in other class in the same grade. The try out is used to know the reliability of the pre-test and post-test.

The criteria of reliability instrument can be divided into 5 classess as follows (Ridwan: 2004), those are:

1. If the *alpha cronbach* score 0.00 – 0.20: less reliable

2. If the *alpha cronbach* score 0.21 – 0.40: rather reliable

3. If the *alpha cronbach* score 0.41 – 0.60: enough reliable

4. If the *alpha cronbach* score 0.61 – 0.80: reliable

5. If the *alpha cronbach* score 0.81 – 1.00: very reliable

The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.5 The result of reability pre-test

Case Processing Summary

		N	%
Cases	Valid	10	100.0
	Excluded^a	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.625	20

Table 3.6 The result of reliability post-test

Case Processing Summary

		N	%
Cases	Valid	10	100.0
	Excluded^a	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.669	20

To know the items was reliable or not it can be seen from Alpha Cronbach's column. If the Alpha Cronbach's under 0,60 mean was not reliable. But if the Alpha Cronbach's upper 0,60 means that was reliable. The Alpha Cronbach's score of pre-test is = 0,625 it means that was reliable. Then, the Alpha Cronbach's score of post-test is = 0,669 it means that was reliable.

C. Normality and Homogenity Testing

Before analyzing the significant difference score in vocabulary of the students' taught by using song from JOOX Music Application and those taught by using conventional method, the data should be normal distribution and homogenous. Normality and Homogeneity is one of the pre-requisite tests used to analyze data at independent sample t test. The purpose was to

find out whether the data has been distributed normally and is there any difference variance in the two groups above. In addition, to measure the data computation were normal distribution and homogenous, the researcher conducted normality testing and homogenity testing. The definition as follow:

1. **Normality Testing**

   Normality tests are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed. The purpose of using normality To know the normality, the researcher used *kolmogorv-smirnove test* with SPSS.16.0.*Kolmogorov-smirnove* is a test for normality for large samples.

2. **Homogeneity Testing**

   Homogeneity testing is intended to make sure that the collected manipulation data in analysis truly taken from population which is too different each other. To know the homogenity, the researcher used T test of Homogeneity of Variances with SPSS.16.

D. **Procedures of the Research**

In this study, the treatment administered four meeting completed with pre-test and post-test since the researcher has no authority to conduct more than it moreover the class did not belong to the researcher herself. The treatment was given after conducted the pre-test and before the post-test. To know the schedule of the research, it can be seen in Table 3.7 below:

Table 3.7 The Schedule of the Research

No	Group	Meeting	Date	Activity	Time
1.	Experimental (VIII B)	I	Monday, February 4th 2019	Pretest and treatment 1 by song from JOOX	6-7
2.	Control (VIII A)		Wednesday, February 6th 2019	Pretest and treatment 1 conventional	3-4
3.	Experimental (VIII B)	II	Thursday, February 7th 2019	Treatment 2 by song from JOOX	6-7
4.	Control (VIII A)		Saturday, February 9th 2019	Treatment 2 conventional	3-4
5.	Experimental (VIII B)	III	Monday, February 11th 2019	Treatment 3 by song from JOOX	6-7
6.	Control (VIII A)		Thusday, February 12th 2019	Treatment 3 conventional	6-7
7.	Control (VIII A)	IV	Wednesday, February 13th 2019	Treatment 4 conventional and posttest	3-4
8.	Experimental (VIII B)		Thursday, February14th 2019	Treatment 4 by song from JOOX and posttest	6-7

The test was given by conducted pre-test and post-test which consisted with vocabulary test. Those test was done on fisrt meeting and the last meeting. While, the treatment was given after pre-test and before the post-test. In this study, the group was got the treatment by using song from JOOX is experimental group only. Thus, the researcher would explain more about those treatment. The procedures of treatment can be seen as follow:

1. **First, treatment was conducted on February 4th 2019**

   Before beginning applied the song media from JOOX Music Application, the researcher introduced the application especially for teach

vocabulary by listening song. Then, she asked students' to prepared their own smartphone by download the application and should login by their own account. After the application ready to used, she asked students' to search the first song (Count on Me) and listened it. By listen in a time, the researcher explained about part of speech (pronoun and noun) in English, and students' continued to listened in second times. Then, she was gave the exercise to the students' after three times of listened. The students' had to listed the new vocabulary which got from the first song and classified it by type of part of speech.

2. Second, treatment was conducted on February, 7th 2019

In the second meeting, the treatment was same with the first meeting. The students' were still listened the first song (Count on Me) for three times and the researcher explained about verb and adjective. After get the new vocabularies, the researcher asked them into group and one of students delivered the reslut of excercise in front of the class.

3. Third, treatment was conducted on February, 11th 2019

In the third meeting, the researcher conducted the treatment that was the same as before. She explained about adverb and conjunction before started to listening section. The students' listened second song that is Fight Song in three times. After listened the song, they asked to listed new vocabularies that got from song and classified it again. Then, one of them choose for delivered their group result of exercise in front of.

4. Fourth, treatment was conducted on February, 14th 2019

In the last treatment, the students' continued to listening section and group discussions. After the treatment is complete, at the end of meeting the researcher conducted a post-test to get the result of the treatment that has been done.

E. Data Collecting Method

Data collecting method is the way the researcher to collect the data. Method of data will provided reality about some steps which are used in the process of collecting data. Researcher used two kinds of tests and one treatment after given a pre-test. They were:

1. Pre-Test

Pre-test was given to the students before the researcher taught by using song from JOOX Music Application. Pre-test is needed to know how far the students'vocabulary mastery in English subject without using song media. The form of pre-test is multiple choices which consist 20 items about part of speech. The pre-test given to know the basic competence for students' and to know them earlier knowledge before they get treatment. The students' answered the task of pre-test is 25 minutes.

2. Treatment

The treatment was conducted after the administration of the pre-test. The treatment consists of 4 meetings. The purpose of treatment is to help students' in understanding vocabulary mastery. The treatment was taught by using song from JOOX Music Application to the students'.

3. Post-Test

After the treatment, the post test was given to the students'. The test item in the post-test was different with the pre-test, but both of them had same indicators and the text was almost same in level of difficulties. This test is to measure students' reading comprehension after treatment applied. The form post-test was also multiple choices which consist 20 items about part of speech which concluded in the lyrics of songs are listen. It was given to know the final score and the students' difference achievement before and after they get treatment. Time allocation to answer the task is 25 minutes.

F. Data Analysis

The collected data were analyzed to know the effectiveness of using song from JOOX Music Application toward students' vocabulary mastery. The researcher divided the test result into two groups, they were the test result from the experimental group and the test result of the control group. Data obtained from the posttest from both of Experiment class and Control class would be analyzed statistically using *Independent-Sample T-Test* through SPSS 16.0for windows. The researcher used t-test to know the significant value was higher or smaller than 0.05. The technique of data analysis used by the researcher belonged to quantitative data analysis.